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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,926	01/22/2002	Hideyuki Kanai	218355US0SRD	3857

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EXAMINER

CREPEAU, JONATHAN

ART UNIT PAPER NUMBER

1746

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,926

Applicant(s)

KANAI ET AL.

Examiner

Jonathan S. Crepeau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2002.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 4, 6-11, 13, 14 and 16-20 is/are rejected.
7) ☒ Claim(s) 2, 3, 5, 12 and 15 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/22/02, 8/7/03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 6-11, 13, 14, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kweon et al (U.S. Pre-Grant Publication No. 2001/0016284).

Regarding claims 1, 7, 17, and 18, the reference teaches a positive active material for a lithium ion secondary battery comprising $\text{Li}_x\text{Ni}_{1-y}\text{Co}_y\text{O}_{2-z}\text{A}_z$ where A is selected from O, F, S, and P and $0 \leq z \leq 0.5$ (see formula 12 of abstract). Regarding claims 11, 14, 19, and 20, the reference teaches a material comprising $\text{Li}_x\text{Ni}_{1-y}\text{Co}_y\text{M}_z\text{A}_2$ where A is selected from O, F, S, and P (see formula 13 of abstract). Further, regarding claims 7, 14, 18, and 20, M in formula 13 may comprise Fe, among other elements.

The reference does not expressly teach that the compound of formula 12 comprises both F and S, as recited in claims 1, 7, 17, and 18, that the compound of formula 13 comprises all of O, F and S, as recited in claims 11, 14, 19, and 20, or that S is present in an amount of 600-3,000 ppm, as recited in all the claims. The reference further does not teach that Fe is present in an amount of 20-500 ppm, as recited in claims 7, 14, 18, and 20.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would have been motivated to form a new complex oxide by combining the elements disclosed as separately usable for component "A" in the disclosed complex oxides. Generally, it has been held to be *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose (*In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980)). In this case, it would have been obvious to combine the elements disclosed as separately usable in the complex oxides (i.e., O, S, and F) so as to form a new complex oxide containing all of these elements. Such a complex oxide would be expected to have the same properties as the oxides containing the individual elements. Furthermore, the artisan may adjust the ratios of the elements in the complex oxides so as to fall within the claimed ranges. In particular, it is noted that the subscript "z" in the formulas is relatively small and approaches zero. As such, the claimed parts per million ranges are not considered to distinguish over the reference.

Allowable Subject Matter

3. Claims 2, 3, 5, 12, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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4. The following is a statement of reasons for the indication of allowable subject matter:

Claims 2, 12, and 15 each recite that the composite oxide contains calcium. Kweon et al., the closest prior art, does not teach or fairly suggest this material.

Claim 5 recites that the composite oxide contains sulfur and sodium. Kweon et al. also does not teach or fairly suggest this material.

Conclusion

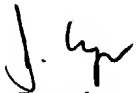
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached at (571) 272-1302. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau

Patent Examiner

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May 21, 2004